Ni(^{86}Kr,Xγ) 2010Da06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	G. Gürdal, E. A. Mccutchan	NDS 136, 1 (2016)	1-Jul-2016

2010Da06: E(^{86}Kr)=60.5 MeV/nucleon on a natural Ni target. Reaction products separated with the LISE spectrometer and identified by ΔE, total energy, and time-of-flight measurements. Measured Eγ, Iγ, γ(t) using four HPGe detectors. Additional details are provided in the thesis of 1999DaZQ.

1999DaZQ construct a level scheme where the 156γ and 273γ depopulate the 54-ns isomeric level, populating levels at 281 keV and 164 keV, respectively. The 164-keV level then decays by the 164γ to the ground state, whereas the 281-keV level is assumed to correspond to the (3$^+$), 0.50-s isomeric level. Since the proposed decay scheme disagrees with the results of ^{70}Fe β^- decay and is constructed based on assumptions of the γ-ray multipolarities, the evaluators do not adopted it here.

^{70}Co Levels

E(level)	J$^\pi$	T$_{1/2}$	Comments
0+x			
437.3+x	(4$^-$)	54 ns *10*	%IT≈100 T$_{1/2}$: from implant-γ(t) (2010Da06,1999DaZQ). E(level): based on the nearly equal transition intensities of the 273γ and 164γ, 1999DaZQ assume these are emitted in cascade. J$^\pi$: as proposed by 2010Da06,1999DaZQ. J^π assignment is not adopted, as there is a discrepancy with the results of ^{70}Fe β^- decay.

γ(^{70}Co)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	Mult.[‡]
[x]155.8[#] *5*	38 *10*		(E1+M2)
[x]164.1[#] *5*	100 *17*		(M1)
[x]273.2[#] *5*	95 *20*		(E2)

[†] From 1999DaZQ.
[‡] As proposed in 2010Da06,1999DaZQ based on a comparison with Weisskopf estimates; not adopted by the evaluators.
[#] Gammas assigned to the decay of the 54-ns isomeric level (1999DaZQ,2010Da06).
[x] γ ray not placed in level scheme.